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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,783	03/22/2004	Charles D. Emery	2003P18810US	9933
7590 Siemens Corporation Intellectual Property Department 170 Wood Avenue South Iselin, NJ 08830		06/26/2008		
EXAMINER				
LEACH, CRYSTAL I				
ART UNIT		PAPER NUMBER		
3737				
MAIL DATE		DELIVERY MODE		
06/26/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/805,783

**Applicant(s)**

EMERY ET AL.

**Examiner**

CRYSTAL I. LEACH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 3/22/2004
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Examiner notes that claim 18 invokes 35 U.S.C. 112, sixth paragraph.

#### ***Information Disclosure Statement***

1. The Information Disclosure Statements (IDS) submitted on March 22, 2004 is in compliance with 37 CFR 1.97 and 1.98. The references therein have been considered.

#### ***Drawings***

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 5-8, 11, 13 and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Silwa, Jr. et al. (5,560,362).

5. Regarding claims 1, 11, 13 and 18 Silwa, Jr. et al. teach a method of cooling an ultrasound transducer comprising the steps of immersing, at least partially, said transducer in a volume of fluid contained within a housing (see abstract and col. 6, l. 57-59; col. 7, l. 1-4 and 14-42), said fluid comprising a first portion occupying a first location in said housing, said first location being proximate to said transducer; receiving thermal energy from said transducer by said first portion (see abstract and col. 7, l. 14-55); inducing movement of said fluid within said housing (see col. 9, l. 41-49); moving, in response to said inducing, said first portion having said thermal energy from said first location to at least a second location in said housing, said second location being different from said first location; moving, in response to said inducing, a second portion of said fluid to said first location; and receiving thermal energy from said transducer by said second portion (see figures 2a-6).

6. Regarding claim 5, Silwa, Jr. et al. teach sensing a temperature wherein movement of fluid is induced based on sensed temperature (see col. 7, l. 33-42; col. 14, l. 48-65; claim 91).

7. Regarding claim 6-8, 15-17, Silwa, Jr. et al. teach that the fluid comprises multiple phases and phase changes can occur as a result of inducing movement of the fluid (see abstract; col. 7, l. 20-25; col. 13, l. 21-46; col. 17, l. 52 – col. 19, l. 30).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2-4, 9, 10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silwa, Jr. et al. (5,560,362) in view of Law et al. (5,762,066).

Silwa, Jr. et al. teach a fluid moving mechanism (see col. 9, l. 41-49). Silwa, Jr. et al. disclose prior art wherein the transducer is capable of imaging (see fig. 1 and col. 19, l. 37-37-52) and also teach that the invention relates to imaging of materials in living tissue (see col. 1, l. 7-11). It would be obvious to one of ordinary skill in the art that an imaging transducer could be utilized and/or substituted in the embodiments taught by Silwa, Jr. et al. in order to enhance the utility of the device. It would be obvious to one of ordinary skill in the art that operation of device can be controlled as desired by the user for a particular procedure.

Though Silwa, Jr. et al. do not teach that the transducer is capable of operative movement within a housing, movable transducers are known in the art.

In the same field of endeavor, Law et al. teach a rotatable transducer mounted within a housing (col. 6, l. 8-9), wherein the movement of the transducer is controlled or initialized by a user (see ). It would be obvious to one of ordinary skill in the art to substitute the transducer of Silwa, Jr. et al. for a transducer capable of providing operative movement, as disclosed in Law et al., in order to improve the utility of the device. It would be obvious to one of ordinary skill in the art that effecting such movement requires energy input and since energy is not destroyed, but is conserved, heat will be given off. Providing a cooling system as that taught by Silwa, Jr. et al. with

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a movable transducer would protect the patient from burning or scarring as well as extend the lifetime of the device.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jaster et al. (5,545,942) teach a method and apparatus for dissipating heat from a transducer element array of an ultrasound probe and Snyder (5,721,463) teaches a method and apparatus for transferring heat from transducer array of ultrasonic probe.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRYSTAL I. LEACH whose telephone number is (571)272-5211. The examiner can normally be reached on Monday through Friday, 8 am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian L Casler/  
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CIL  
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